

ABSTRACT

Polyimides consisting of PMDA and an aromatic diamine are normally solvent-insoluble. According to the present invention, they are solubilized in solvents to prepare
5 four-component or higher block copolymers containing BTDA. PMDA is reacted with a certain type of aromatic diamine in a molar ratio of 1:2-1.5 to produce a solvent-soluble oligomer. This is combined with an acid dianhydride and an aromatic diamine to produce a four-component or higher
10 solvent-soluble block copolymer.

The molar ratio of the aromatic diamine added with PMDA is 1:2-1.5. A number of solvent-soluble block copolymers containing PMDA can be prepared.

Four-component or higher polyimide block copolymers
15 containing PMDA, BTDA, and DAT are prepared by sequential reactions in the presence of a binary catalyst. This made it possible to prepare various polyimides from many inexpensively available materials. Polyimides containing PMDA-BTDA-DAT can be prepared at high performance, in mass
20 and at low cost by using economical direct imidation, and therefore can be widely used in future.